

# ABSTRACT

A re-configurable wavelength selective device, also referred to as a re-configurable wavelength drop device, has an input fiber, where a signal comprising multiple wavelengths  $\lambda_1, \lambda_2, \dots, \lambda_n$  is brought into the device, and two output fibers, one for a selected wavelength  $\lambda_i$  and the other for the remaining wavelengths  $\lambda_1, \lambda_2, \dots, \lambda_{i-1}, \lambda_{i+1}, \dots, \lambda_n$  which pass through the device unaffected. The wavelength  $\lambda_i$  is selected by a control signal, for example an electrical signal, applied to the device. The re-configurable wavelength drop device also enables selecting among a large number of wavelength channels within a relatively short switching time. In a preferred embodiment, the re-configurable wavelength drop device enables selecting among in excess of a thousand wavelength channels in a switching time of less than or equal to 10 msec.